

**Appln No. 10/735,050**  
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**Reply to Office action of September 12, 2006**

**REMARKS/ARGUMENTS**

Claims 1-28 remain in the present application, of which claims 1, 15, 17 and 24 are independent. Claims 1, 15, 17 and 24 are amended herein. Applicant submits that the amendments to these claims are of a nature that does not require a new search. Support for the amendment is found throughout the specification. No new matter has been added. Accordingly, Applicant requests that these amendments be entered prior to further consideration of the claims. None of the claims has been canceled. Applicant respectfully requests reconsideration and allowance of claims 1-28.

**I. Rejection of Claim 15 under 35 U.S.C. §102(e)**

Claim 15 was rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Rahman et al. (USP 6,716,028). In rejecting claim 15, the Examiner contends "Rahman shows a hand piece 82, Figs. 11A-11D, for a transducer 14, a body 82b rotatably receiving a transducer, rotator head 80a engaging the transducer for rotation, means 80b for rotatably coupling the body 82b to the rotator head 80a." The Examiner further asserts that "[a]ll of the actual claimed structure being shown, to call 80a a head is merely terminology, and as such, is not given patentable weight."

Applicant respectfully traverses the rejection.

In FIGs. 11A to 11D of Rahman et al., the adapter 80 (including a cylindrical body section 80a, which the Examiner appears to equate to the rotator head) has a smaller diameter than the handpiece 82. As such, the adapter 80 (and the cylindrical body section 80a) cannot envelope any portion of the handpiece 82, and is, in fact, at least partially situated inside the handpiece 82. Because the adapter 80 makes a contact with an inner surface of the handpiece 82 and is partially situated inside thereof, "the O-ring 80d provides a fluid seal between the handpiece 82 and an insert." (Col. 9, lines 5-7, Rahman et al.).

Claim 15 now recites:

An ultrasonic dental handpiece for holding a transducer for converting electrical energy into ultrasonic vibrations, the dental handpiece comprising:

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a body adapted for rotatably receiving such transducer;  
a rotator head adapted for engaging such transducer for rotation thereof,  
wherein the rotator head envelopes at least a portion of the body; and  
means for rotatably coupling the body to the rotator head, said means  
being fixedly coupled to one of the body and the rotator head and rotatably  
coupled to the other of the body and the rotator head. (Emphasis Added)

As the rotator head is external to the body of the handpiece, it is not inside the handpiece, nor does it have a smaller diameter than the handpiece. Also, the rotator head of the present invention is at a location not directly interfacing with fluid, so a sealing O-ring is not required, as is required by Rahman et al.

To anticipate a claim, however, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Therefore, all claim elements, and their limitations, must be found in the prior art reference to maintain a rejection based on 35 U.S.C. §102.

Since Rahman et al. does not disclose or teach a handpiece wherein "the rotator head envelopes at least a portion of the body," claim 15 is not anticipated by Rahman et al. Therefore, Applicant requests that the rejection of claim 15 be withdrawn and that this claim be allowed. Reconsideration is respectfully requested.

## **II. Rejection of Claims 1-4, 13, 14, 16-19, and 21-27 under 35 U.S.C. §103(a)**

Claims 1-4, 13, 14, 16-19 and 21-27 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rahman et al. in view of Novak (USP 6,012,922).

While rejecting claims 1-4, 13, 14, 16-19 and 21-27 under 35 U.S.C. §103(a), the Examiner concedes that "coupling means of Rahman is not in the form of a ring," but contends that "[i]t would be obvious to one of ordinary skill in the art to modify Rahman to include using a ring coupling means as shown by Novak in order to make use of known alternatives in the art. .

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." Hence, Novak appears to be cited here for the proposition that it discloses coupling means in the form of a ring.

Applicant respectfully traverses the rejection.

Claim 1 now recites:

1. An ultrasonic dental handpiece for holding a transducer for converting electrical energy into ultrasonic vibrations, the dental handpiece comprising:  
a body adapted for rotatably receiving such transducer;  
a rotator head adapted for engaging such transducer for rotation thereof, wherein the rotator head envelopes at least a portion of the body; and  
a retainer ring fixedly coupled to one of the body and the rotator head and rotatably coupled to the other of the body and the rotator head, such that the rotator head is rotatably coupled to the body. (Emphasis Added)

Claim 17 now recites:

17. An ultrasonic dental unit comprising:  
an insert comprising a tip and a transducer for converting electrical energy into ultrasonic vibrations; and  
a handpiece comprising:  
a body rotatably receiving the insert;  
a rotator head engaging the insert for rotation thereof, wherein the rotator head envelopes at least a portion of the body; and  
a retainer ring fixedly coupled to one of the body and the rotator head and rotatably coupled to the other of the body and the rotator head, such that the rotator head is rotatably coupled to the body; and  
a coil assembly for exciting the transducer. (Emphasis Added)

Claim 24 now recites:

24. An ultrasonic dental handpiece comprising:  
a body adapted for rotatably receiving an ultrasonic insert;  
a rotator head adapted for engaging such ultrasonic insert for rotation thereof, wherein the rotator head envelopes at least a portion of the body; and  
a retainer ring fixedly coupled to one of the body and the rotator head and rotatably coupled to the other of the body and the rotator head, such that the rotator head is rotatably coupled to the body;  
wherein the rotation of the insert is effected by applying force to the rotator head. (Emphasis Added)

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As discussed in section I above, Rahman et al. does not disclose that the rotator head envelopes at least a portion of the body. The deficiency of Rahman et. al. is not supplied by Novak, as Novak also does not teach or suggest that the rotator head envelopes at least a portion of the body.

In addition, there is no teaching or suggestion in either Rahman et al. or Novak to combine their teachings to arrive at the claimed invention.

Further, FIGs. 11A to 11D of Rahman et al. show an adapter 80 (including a cylindrical body section 80a) having a smaller diameter than the handpiece 82, which is teaching away from the invention of claim 1, 17 or 24.

Three criteria must be met, however, in order to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. (Emphasis Added, MPEP § 2142).

Because Rahman et al. and Novak together do not teach or suggest at least one limitation, and because there is no teaching or suggestion to combine Rahman et al. and Novak, a *prima facie* case of obviousness cannot be established for claims 1, 17 and 24 over Rahman et al. and Novak. Therefore, Applicant requests that the rejection of claims 1, 17 and 24 be withdrawn and that these claims be allowed.

Claims 2-4, 13, 14, 16, 18-19, 21-23 and 25-27 are also rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rahman et al. in view of Novak (USP 6,012,922). While Applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claims 1, 17 and 24. These dependent claims depend from claims 1, 17 and 24, respectively. They incorporate all of the limitations of the base claim and any intervening claims, and recite additional features which further patentably distinguish these claims over the

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cited references. Therefore, Applicant requests that the rejection of claims 2-4, 13, 14, 16, 18-19, 21-23 and 25-27 be withdrawn and that these claims be allowed.

Reconsideration is respectfully requested.

**III. Rejection of Claims 5 and 6 under 35 U.S.C. §103(a)**

Claims 5 and 6 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Rahman et al. in view of Novak as applied to claim 1, and further in view of Coss et al. (USP 5,655,906). Coss et al. is being cited here for the proposition that it "shows a plurality of grooves and slots."

Applicant respectfully traverses the rejection.

As discussed above, claim 1 is patentable over Rahman et al. in view of Novak. The deficiency of Rahman et. al. is not supplied by Coss et al., which is cited for the proposition that it "shows a plurality of grooves and slots." Coss et al. does not teach or suggest that "the rotator head envelopes at least a portion of the body." Therefore, claim 1 is patentably distinguishable over Rahman et al. in view of Novak, and further in view of Coss et al., because the deficiency of Rahman et al. is not supplied by Novak and Coss, even if such combination is proper, which Applicant by no means concedes.

Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Rahman et al. in view of Novak as applied to claim 1, and further in view of Coss et al. (USP 5,655,906). While applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claim 1. Claims 5 and 6 depend from claim 1, and they each incorporate all the limitations of claim 1 in addition to other limitations, which together further patentably distinguish these claims over the cited references. Therefore, Applicant requests that the rejection of claims 5 and 6 be withdrawn and that these claims be allowed.

Reconsideration is respectfully requested.

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**IV. Rejection of Claims 7-10, 20 and 28 under 35 U.S.C. §103(a)**

Claims 7-10, 20 and 28 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rahman et al. in view of Novak as applied to claim 1, and further in view of Carmona et al. (USP 3,654,502). Carmona et al. is being cited for the proposition that it "teaches a coil 36, bobbin 16, O-ring 30 and fluid 66 within the bobbin."

Applicant respectfully traverses the rejection.

Carmona et al. does not teach or suggest that "the rotator head envelopes at least a portion of the body." Therefore, each of claims 1, 17 and 24 is patentably distinguishable over Rahman et al. in view of Novak, and further in view of Carmona et al., because the deficiency of Rahman et al. is not supplied by Novak and Carmona et. al. even if such combination is proper, which Applicant by no means concedes.

Claims 7-10, 20 and 28 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rahman et al. in view of Novak as applied to claim 1, and further in view of Carmona et al. (USP 3,654,502). While applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claim 1, 17 and 24. Claims 7-10, 20 and 28 depend, directly or indirectly, from claims 1, 17 and 24, respectively, and incorporate all the terms and limitations of claim 1, 17 or 24, and other limitations, which together further patentably distinguish them over the cited references. Therefore, Applicant requests that the rejection of claims 7-10, 20 and 28 be withdrawn and that these claims be allowed.

Reconsideration is respectfully requested.

**V. Rejection of Claims 11 and 12 under 35 U.S.C. §103(a)**

Claims 11 and 12 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rahman et al. in view of Novak and Carmona et al. as applied to claim 8, and further in view of Paschke et al. (USP 5,395,240). Paschke et al. is being cited here for the proposition that it discloses "using a plug pin. . ."

Applicant respectfully traverses the rejection.

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Paschke et al. does not teach or suggest that ""the rotator head envelopes at least a portion of the body." Therefore, claim 8 is patentably distinguishable over Rahman et al, Novak, Carmona et al. and Paschke et al. because the deficiency of Rahman et al. is not supplied by Novak, Carmona et. al. and Paschke, even if such combination is proper, which Applicant by no means concedes.

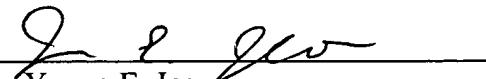
Since claims 11 and 12 depend, directly or indirectly, over claim 8, they each incorporate all the limitations of claim 8 in addition to other limitations, which together further patentably distinguish them over the cited references. Therefore, Applicant requests that the rejection of claims 11 and 12 be withdrawn and that these claims be allowed.

Reconsideration is respectfully requested.

#### **VI. Concluding Remarks**

In view of the foregoing amendments and remarks, Applicant earnestly solicits an early issuance of a Notice Allowance with claims 1-28. If there are any remaining issues that can be addressed over the telephone, the Examiner is cordially invited to call Applicant's attorney at the number listed below.

Respectfully submitted,  
CHRISTIE, PARKER & HALE, LLP

By   
Jun-Young E. Jeon  
Reg. No. 43,693  
626/795-9900

JEJ/sls

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